

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 9, 14-23, 26-28, 32, 33, and 37-39 (Canceled)

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1. (Presently Amended) A pressure vessel, comprising:
an inner shell capable of serving as a gas barrier and a pressure resistant outer shell provided to cover the inner shell, which said outer shell is made of a fiber reinforced plastic Fiber Reinforced Plastic (FRP) comprising reinforcing reinforced fibers and a resin and of 35 GPa or more in tensile modulus and 1.5% or more in tensile breaking strain, wherein the reinforcing fibers comprise carbon fiber yarns of 0.30 or less in oxygen ratio at surface and 0.02 or more in nitrogen ratio at surface.
 2. (Previously Amended) A pressure vessel of claim 1 wherein the inner shell is made of a metal, resin or FRP.
 3. (Withdrawn from Consideration) A pressure vessel of claim 1 wherein the inner shell has a gas barrier layer formed on the inside surface and/or outside surface.
 4. (Withdrawn from Consideration) A pressure vessel of claim 1 wherein the inner shell has a body portion, on which a reinforcing layer made of a FRP is formed.
 5. (Previously Amended) A pressure vessel of claim 1 wherein the outer shell is 35 GPa or more in tensile modulus and 1.7% or more in tensile breaking strain.

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6. (Previously Amended) A pressure vessel of claim 1 wherein the outer shell is 35 GPa or more in tensile modulus and 2.0% or more in tensile breaking strain.

7. (Previously Amended) A pressure vessel of claim 1 wherein the reinforcing fibers comprise carbon fiber yarns of 4.5 GPa or more in strand tensile strength and 2.0% or more in strand tensile breaking strain.

8. (Previously Amended) A pressure vessel of claim 1 wherein the reinforcing fibers comprise carbon fiber yarns of 5.5 GPa or more in strand tensile strength and 2.0% or more in strand tensile breaking strain.

10. (Withdrawn from Consideration) A pressure vessel of claim 5 wherein the outer shell comprises a layer of reinforcing fibers arranged, with reference to the axial direction of the pressure vessel, at an angle within a range from $\pm 5^\circ$ to $\pm 50^\circ$ and a layer of reinforcing fibers arranged at an angle within a range from $\pm 75^\circ$ to $\pm 105^\circ$.

11. (Withdrawn from Consideration) A pressure vessel of claim 1 wherein the outer shell comprises a layer of reinforcing fibers arranged, with reference to the axial direction of the pressure vessel, at an angle within a range from $\pm 0^\circ$ to $\pm 15^\circ$, a layer of reinforcing fibers arranged at an angle within a range from $\pm 75^\circ$ to $\pm 105^\circ$ and a layer of reinforcing fibers arranged at an angle within a range from $\pm 30^\circ$ to $\pm 60^\circ$.

12. (Presently Amended) A pressure vessel of claim 10 wherein characterised in that the volume ratio of reinforcing fibers in the layers of reinforcing fibers arranged, with reference to the axial direction of the pressure vessel, at an angle within a range from $\pm 5^\circ$ to $\pm 50^\circ$: that in the layer of reinforcing fibers arranged at an angle within a range from $\pm 75^\circ$ to $\pm 105^\circ$ is in the range of 1.0 : 1.0-2.0.

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13. (Withdrawn from Consideration) A pressure vessel of claim 11 wherein the volume ratio of reinforcing fibers in the layers of reinforcing fibers arranged, with reference to the axial direction of the pressure vessel, at an angle within a range from $\pm 0^\circ$ to $\pm 15^\circ$: that in the layer of reinforcing fibers arranged at an angle within a range from $\pm 75^\circ$ to $\pm 105^\circ$: that in the layer of reinforcing fibers arranged at an angle within a range from $\pm 30^\circ$ to $\pm 6^\circ$ is in the range of 1:1.5-2.5:0.2-1.2.

24. (Previously Withdrawn from Consideration) A pressure vessel of claim 1 wherein the pressure vessel has a body portion, and the outer shell has a layer structure of 5 or more layers around the body portion, the relation between the total thickness T (mm) of all the layers and the number N of the layers, satisfying $0.5 \leq T/N \leq 6$.

25. (Withdrawn from Consideration) A pressure vessel of claim 24 wherein, in said body portion, layers with reinforcing fibers hoop-wound and layers with reinforcing fibers helically would be alternately arranged in the thickness direction of the outer shell.

29. (Withdrawn from Consideration) A pressure vessel of claim 1 wherein the outer shell comprises the following components [X], [Y] and [Z], and the component [Z] is localized around the component [X] appearing in a cross sectional face of the outer shell:

[X] : a reinforced fiber bundle

[Y] : a thermosetting resin

[Z] : an elastomer and/or thermoplastic resin.

30. (Withdrawn from Consideration) A pressure vessel of claim 29 wherein the ratio L_2/L_1 satisfies $1/100 \leq L_2/L_1 \leq 1/2$, where L_1 is the length of a straight line connecting the geometrical centers of two adjacent component [X], L_2 is the length of a portion of the straight line crossing the component [Z] present between the said two adjacent component [X].

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31. (Withdrawn from Consideration) A pressure vessel of claim 29 wherein the component [Z] comprises at least one selected from the group consisting of polyvinyl acetate, polyamides, polycarbonates, polyacetals, polyphenylene oxide, polyphenylene sulfide, polyallylates, polyesters, polyamidimides, polyimides, polyether imides, polysulfones, polyether sulfones, polyether ether ketone, polyaramid, polybenzimidazole, polyethylene, polypropoylene, cellulose acetate, cellulose butyrate, polyester based thermoplastic elastomers and polyamide based thermoplastic elastomers.

34. (Previously Amended) A pressure vessel of claim 1 wherein the outer shell comprises a shoulder portion, and the innermost layer of the shoulder portion comprises a layer with reinforcing fibers hoop-wound.

35. (Previously Amended) A pressure vessel of claim 34 wherein the innermost layer is formed by the filament winding method.

36. (Withdrawn from Consideration) A pressure vessel of claim 34 wherein the circumferential surfaces of the shoulder portion of the inner shell are formed to have steps in the axial direction, respectively extending in the circumferential direction.

40. (Previously Amended) A pressure vessel of claim 1 wherein the inner shell comprises a neck portion, inside which a boss for nozzle installation is provided, and a seal ring is fitted on the end face of the neck portion around the boss for nozzle installation, and a pressing means is provided for pressing the seal ring toward the end face of the neck portion.

41. (Withdrawn from Consideration) A pressure vessel of claim 40 wherein the pressing means comprises a seal ring pressing member and a clamp of the pressing member.

42. (Withdrawn from Consideration) A pressure vessel of claim 40 wherein the pressing means comprises a pressing member threadedly engaged with the boss for nozzle installation.

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43. (Withdrawn from Consideration) A pressure vessel of claim 40 wherein the pressing means comprises a pressing member comprising a cylindrical portion threadedly engaged with the neck portion, and a collar portion held in contact with the seal ring.

44. (Withdrawn from Consideration) A pressure vessel of claim 40 wherein the boss for nozzle installation comprises a flange portion, and the outer diameter of the pressing means is smaller than the outer diameter of the flange portion by 1 to 10 mm.

45. (Withdrawn from Consideration) A pressure vessel of claim 40 wherein the end face of the neck portion comprises an annular groove provided to have the seal ring fitted therein.

46. (Withdrawn from Consideration) A pressure vessel of claim 42 wherein the outer shell extends up to a position to cover the pressing member.

47. (Withdrawn from Consideration) A pressure vessel of claim 43 wherein the cylindrical portion comprises a step.

48. (Withdrawn from Consideration) A pressure vessel of claim 1 wherein the inner shell comprises a neck portion; a boss for nozzle installation is provided inside the neck portion; and the surface of the boss for nozzle installation to be coupled with the neck portion has a rugged form.

49. (Previously Amended) A pressure vessel of claim 1 wherein the inner shell comprises a neck portion; inside which a boss for nozzle installation is provided, and the surface of the boss for nozzle installation to be coupled with the neck portion has a circumferentially extending ridge.

50. (Withdrawn from Consideration) A pressure vessel of claim 48 wherein additionally the surface to be coupled has a rugged form.

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51. (Withdrawn from Consideration) A pressure vessel of claim 48 wherein a seal ring is fitted on the end face of the neck portion around the boss for nozzle installation, and a means for pressing the seal ring toward the end face of the neck portion is provided.

52. (Withdrawn from Consideration) A pressure vessel of claim 1 wherein the inner shell comprises a neck portion inside which a boss for nozzle installation is provided, and outside the neck portion a cylindrical member having a collar portion, a cylindrical portion in succession to the collar portion and a flange portion extending from the circumferential surface of the cylindrical portion into the outer shell are provided.

53. (Presently Amended) A pressure vessel of claim 52 ~~characterised in that~~ wherein the flange portion extends annularly.

54. (Presently Amended) A pressure vessel of claim 52 ~~characterised in that~~ wherein a seal ring is fitted on the end face of the neck portion around the boss for nozzle installation, and the collar portion presses the seal ring toward the end face of the neck portion.

55. (Presently Amended) A pressure vessel of claim 52 wherein ~~characterised in that~~ a clamp of the cylindrical member, threadedly engaged with the boss for nozzle installation, is provided outside the collar portion of the cylindrical member.

56. (Presently Amended) A pressure vessel of claim 52 wherein ~~characterised in that~~ the collar portion is threadedly engaged with the boss for nozzle installation.

57. (Presently Amended) A pressure vessel of claim 1 wherein ~~characterised in that~~ the inner shell has a neck portion inside which a boss for nozzle installation having a flange portion and a body portion is provided and the outer diameter of the flange portion is larger than the outer diameter of the body portion by 20 mm to 25

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mm, and the cylindrical portion has a tapered surface kept in contact with the neck portion.
